



Toyota Motor North America, Inc.
1588 Woodridge Avenue
Ann Arbor, Michigan 48105

July 14, 2020

**EDIR-VERR Coordinator
Compliance Division
U.S. Environmental Protection agency
2000 Traverwood Drive
Ann Arbor, Michigan 48105**

***Re: Submission of Emissions Defect Information Report for Certain 2013-2015 Model Year (MY)
Toyota Prius vehicles and 2014-2017MY Toyota Prius V vehicles Inverter***

Pursuant to the requirements outlined in Part 85 (Subpart T) of 40CFR, we are providing an Emissions Defect Information Report (EDIR) on the model listed in paragraph 3 of this Defect Report. The subject vehicles were not involved in Safety Recall J0V because they were originally equipped with a version of the software, used to control the boost converter in the Intelligent Power Module (IPM) within the inverter assembly of the vehicle's hybrid system, that contains improved thermal management. Repeated driving under certain identified high-load driving patterns (e.g., from a stop, applying nearly full throttle and then gradually further accelerating to full throttle) could cause higher thermal stress in specific transistors in the IPM, resulting in damage to those transistors over time. On June 24, 2020, Toyota filed the attached Defect Information Report (DIR) with the National Highway Traffic Safety Administration (NHTSA) informing the agency of our intent to conduct a voluntary Safety Recall 20TA10. Attached are also Field Fixes #15-TF-37, 14-TF-48, 13-TF-60 submitted on October 30, 2018, and #18-TF-59, 17-TF-66, 16-TF-95 and 15-TF-48 submitted on June 24, 2020 regarding to this concern for our reference.

If you have any questions regarding this matter, please contact Mr. Arvon Mitcham of my staff at (734) 995-5587 or email: arvon.mitcham@toyota.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Will Meschievitz".

William Meschievitz
Group Manager
Powertrain Certification and Compliance

cc: Mr. Allen Lyons Chief, California Air Resources Board – Emissions Certification and Compliance Division

<u>1. Manufacturer's Corporate Name</u>	<u>Affiliated U.S. Importing Company</u>
Toyota Motor Corporation	Toyota Motor North America, Inc
1, Toyota-Cho, Toyota-City	6565 Headquarters Drive
Aichi, 471-8571, JAPAN	Plano, TX 75024, U.S.A

2. Description of the Defect

The subject vehicles were not involved in Safety Recall J0V because they were originally equipped with a version of the software, used to control the boost converter in the Intelligent Power Module (IPM) within the inverter assembly of the vehicle's hybrid system, that contains improved thermal management. Repeated driving under certain identified high-load driving patterns (e.g., from a stop, applying nearly full throttle and then gradually further accelerating to full throttle) could cause higher thermal stress in specific transistors in the IPM, resulting in damage to those transistors over time. This can lead to illumination of various warning lights and the display of a warning message on the instrument panel. In cases where a specific transistor fails in a certain way during a high-load driving condition, such as during hard acceleration, there is a possibility for an abnormally high voltage to be generated that could exceed a certain limit in the software and IPM circuit design causing the hybrid system to shut down instead of entering a failsafe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. In this condition, power steering and braking will not be affected. However, a hybrid system that shuts down without entering a failsafe mode could result in the vehicle losing motive power while driving at higher speeds, increasing the risk of a crash.

3. Description of Vehicles Potentially Affected

<u>Make(s)</u>	<u>Model Year(s)</u>	<u>Model(s)</u>	<u>Test Group(s)</u>	<u>Engine(s)</u>	<u>Approximately Potentially Affected Vehicles</u>
Toyota	2013	Prius	DTYXV01.8HC3	2ZR-FXE	10
Toyota	2014	Prius	ETYXV01.8HC3	2ZR-FXE	60,559
Toyota	2014	Prius V	ETYXV01.8CCU	2ZR-FXE	10,313
Toyota	2015	Prius	FTYXV01.8HC3	2ZR-FXE	144,266
Toyota	2015	Prius V	FTYXV01.8CCU	2ZR-FXE	22,659
Toyota	2016	Prius V	GTYXV01.8PCU	2ZR-FXE	13,099
Toyota	2017	Prius V	HTYXV01.8P3U	2ZR-FXE	15,731

4. Number of the Affected Vehicles and the Address of the Plants at Which the Affected Vehicles Were Produced

(1) *Number of affected vehicles*

Approximately 266,637 units

(2) *Addresses of the Manufacturing Plant*

Toyota Motor Corporation, Takaoka Plant

1 Sanko, Honda-Cho, Toyota-City, Aichi, Japan

Toyota Motor Corporation Tsutsumi Plant

1, Umanokashira, Tsutsumi-Cho, Toyota-City, Aichi, Japan

5. Evaluation of Emissions Impact and Description of Drivability Problems

Emissions Impact:	Emissions Impact is not expected.
Drivability Impact:	Drivability will be impacted if the vehicle enters a failsafe driving mode or there is a hybrid system shut down due to this condition.
Fuel Economy Impact:	Fuel Economy impact will be minimal in the case of a hybrid system shutdown or in the case of the vehicle entering a failsafe driving mode where power will be restricted.

6. Emission Data Related to the Defect

There is no emission data available at this time.

7. Anticipated Manufacturer Follow-up

Safety Recall Campaign 20TA10

Field Fixes #15-TF-37, 14-TF-48, 13-TF-60 submitted on October 30, 2018

#18-TF-59, 17-TF-66, 16-TF-95, 15-TF-48 submitted on June 24, 2020

June 24, 2020

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Corporation ["TMC"]
1, Toyota-cho, Toyota-city, Aichi-pref., 471-8571, Japan

Affiliated U.S. Sales Company:

Toyota Motor North America, Inc. ["TMNA"]
6565 Headquarters Drive, Plano, TX 75024

Manufacturer of Hybrid Control ECU:

DENSO CORPORATION
1-1, Showa-cho, Kariya-city, Aichi, 448-8661, Japan
Telephone: + 81-566-25-5511

DENSO TEN Limited
2-28, Goshō-dori 1-chome, Hyogo-ku, Kobe-city, Hyogo, 652-8510, Japan
Phone: +81-78-671-5081

Country of Origin: Japan

2. Identification of Involved Vehicles:

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / Prius	2013-2015	TMC	March 15, 2013 through November 9, 2015
Toyota / Prius v	2014-2017		June 20, 2014 through November 30, 2017

Applicability	Part Number	Part Name	Component Description
MY2013-2015 Toyota Prius	89681-47440 89681-47441 89681-47250 89681-47251	Computer, Power Management Control	Hybrid Control ECU
MY2014-2017 Toyota Prius v	89681-47030 89681-47422 89981-47630	Computer, Power Management Control Computer, Hybrid Vehicle Control (2017MY)	

NOTE: (1) Although the involved vehicles are within the above production period, not all vehicles in this range were sold in the U.S.
(2) Other Toyota or Lexus vehicles do not use the same hybrid control ECU and software as the involved vehicles or are involved in Safety Recall 18V-684.

3. Total Number of Vehicles Potentially Involved:

Prius : 204,835
Prius v : 61,802
Total : 266,637

4. Percentage of Vehicles Estimated to Actually Contain the Defect:

Unknown. Toyota is unable to provide an estimate of the percentage of vehicles to actually contain the defect. Whether the issue in each case will lead to damage of the transistor within the inverter assembly and subsequently lead to a shutdown of the hybrid system, creating an unreasonable risk to safety, depends on each vehicle's operating conditions.

5. Description of Problem:

The subject vehicles were not involved in Safety Recall 18V-684 because they were originally equipped with a version of the software, used to control the boost converter in the Intelligent Power Module (IPM) within the inverter assembly of the vehicle's hybrid system, that contains improved thermal management. Repeated driving under certain identified high-load driving patterns (e.g., from a stop, applying nearly full throttle and then gradually further accelerating to full throttle) could cause higher thermal stress in specific transistors in the IPM, resulting in damage to those transistors over time. This can lead to illumination of various warning lights and the display of a warning message on the instrument panel. In cases where a specific transistor fails in a certain way during a high-load driving condition, such as during hard acceleration, there is a possibility for an abnormally high voltage to be generated that could

exceed a certain limit in the software and IPM circuit design causing the hybrid system to shut down instead of entering a failsafe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. In this condition, power steering and braking will not be affected. However, a hybrid system that shuts down without entering a failsafe mode could result in the vehicle losing motive power while driving at higher speeds, increasing the risk of a crash.

6. Chronology of Principal Events:

October 2018

On October 4, 2018, Toyota filed Safety Recall 18V-684, which did not include the subject vehicles. Because the subject vehicles contained the improved thermal management logic when new, Toyota judged that it was unlikely that they would be affected by the condition in that recall. However, Toyota continued monitoring the field information for the subject vehicles and collecting field parts for analysis.

August 2019 - January 2020

By this time, Toyota had recovered a number of inverter assemblies from the subject vehicles from the U.S market indicating potential hybrid inverter failure. Toyota investigated the recovered inverter assemblies and found certain damaged transistors in the IPM. However due to extent of the damage, the cause of the damage was not able to be identified.

As the field cases, up to this point, occurred predominantly in North America, Toyota hypothesized that there could be a previously unknown difference in the driving conditions in North America that could explain the different field experience in North America.

Thus, Toyota sought to compare the driving conditions between Japan and North America. To do so, Toyota collected and analyzed driving data from a number of vehicles that were of another Toyota hybrid model, capable of communicating driving data wirelessly, that is sold in both regions. (As the subject Prius and Prius v vehicles are not capable of communicating driving data wirelessly, a different hybrid model was used.) Through this data, Toyota identified that there are potential differences between Japan and North America, in terms of vehicle speed and accelerator pedal application angle, under certain driving conditions, e.g., accelerator application patterns used to achieve rapid acceleration from very low speed.

Based on these findings, Toyota began testing to understand the potential effects of this type of driving pattern (where full throttle is applied from a stop) on the relevant transistors in the subject vehicles. In parallel, in order to determine whether the driving patterns observed from the other hybrid model are similar to the driving patterns of Prius and Prius v drivers who have experienced these transistor failures, Toyota began collecting driving data from some customers who previously experienced this type of transistor failure by installing a recording device with the customer's permission.

February 2020 – Early-June 2020

At this time, Toyota concluded the aforementioned testing to understand the potential effects on these transistors in the subject vehicles when they are exposed to a driving pattern where full throttle is applied from a stop. In this testing, temperature in the transistors for the boost converter did not increase to a point which could cause damage to the transistors.

Based on this result, Toyota believed that there may be further differences in the driving pattern which could contribute to generating a higher temperature in these transistors. Based on closer analysis of the driving data of the Prius customers who agreed to have a recording device installed, it was found that the unique driving pattern from these customers was not an application of full throttle from a stop. Instead it was a pattern where, from a stop, the driver would apply the accelerator pedal rapidly up to approximately two third opening position and then gradually further accelerate to full throttle.

Further testing and analysis were conducted using this newly identified driving pattern and similar driving patterns. This revealed that if the driver applies nearly full throttle from a stop and then gradually further accelerates to full throttle, the temperature generated in transistors for the boost converter could increase unexpectedly, beyond the levels created under prior testing where full throttle is applied directly from a stop.

Throughout this investigation, Toyota was also able to collect data from some vehicles that potentially experienced hybrid inverter failure that was retrieved when the vehicle was serviced by a dealer (i.e., freeze frame data contained within the hybrid control ECU). At this time, Toyota was able to complete its detailed review and analysis of the available freeze frame data. Through this analysis, Toyota identified eight data records that indicated that the hybrid system in a subject vehicle shut down instead of entering a failsafe driving mode due to an abnormally high voltage being generated.

Based on a result of the investigation above, it was found that, in spite of the improved thermal management logic in the software that was originally equipped in the subject vehicles, thermal damage could occur in certain transistors if the vehicle is exposed to repeated driving under certain identified high-load driving patterns over time. In cases where a specific transistor fails in a certain way during a high-load driving condition, such as during hard acceleration, a large counter-electromotive voltage could be generated by the motor/generator at a capacitor within the IPM. This large voltage, higher than the system limit, could be generated by the increase in RPM of the internal combustion engine and the motor generator attached to the engine. If this were to occur, the hybrid system could shutdown, by design, in order to protect the system from electrical damage. In this condition, power steering and braking will not be affected. However, a hybrid system that shuts down without entering a failsafe mode could result in the vehicle losing motive power while driving at higher speeds, increasing the risk of a crash.

June 18, 2020

Toyota decided to conduct a voluntary safety recall campaign.

As of June 10, 2020, based on a diligent review of records, Toyota's best engineering judgment is that there is one Toyota Field Technical Report and there are seven warranty claims that have been received from U.S. sources that relate to the condition investigated in this chronology and which were considered in the decision to submit this report.

7. Description of Corrective Repair Action:

To address the safety defect, all known owners of the subject vehicles will be notified by first class mail to return their vehicles to a Toyota dealer to have a software update for the hybrid system performed at no cost.

For customer satisfaction, if the vehicle has experienced an inverter failure with certain hybrid system faults related to this condition, the inverter assembly will be repaired or replaced, prior to software update, at no cost.

Reimbursement Plan for pre-notification remedies

The owner letter will instruct vehicle owners who have paid to have this condition remedied prior to this campaign to seek reimbursement pursuant to Toyota's General Reimbursement Plan.

8. Recall Schedule:

Notifications to owners will be sent by August 23, 2020. A copy of the draft owner notification will be submitted as soon as it is available.

9. Distributor/Dealer Notification Schedule:

Notifications to distributors/dealers will be sent by June 24, 2020. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

[Interim / Remedy] 20TB10 / 20TA10



Toyota Motor North America, Inc.
1555 Woodridge Ave.
Ann Arbor, MI 48105
(734) 995-2600

October 30, 2018

Mr. William Ott
Compliance Division
Environmental Protection Agency
2000 Traverwood Dr.
Ann Arbor, MI 48105

SUBJECT: Submission of Field Fixes 15-TF-37, 14-TF-48, 13-TF-60, 12-TF-72, 11-TF-68 and 10-TF-90

Dear Mr. Ott:

In accordance with the provisions of 40 CFR§86.1842-01 and §86.1844-01(f), Toyota is providing for review the subject Field Fixes for the following test groups:

MYs	F/F	Test Groups	Models	Engine
2015	15-TF-37	FTYXV01.8HC3	Prius	2ZR-FXE
2014	14-TF-48	ETYXV01.8HC3	Prius	
		ETYXV01.8CCU	Prius v	
2013	13-TF-60	DTYXV01.8HC3	Prius	
		DTYXV01.8CCU	Prius v	
2012	12-TF-72	CTYXV01.8HC3	Prius	
		CTYXV01.8CCU	Prius v	
2011	11-TF-68	BTYXV01.8HC3	Prius	
2010	10-TF-90	ATYXV01.8HC3	Prius	

The purpose of these Field Fixes is to maintain vehicle driving performance when inverter malfunction occurs. (OBD-related)

The following information is attached for review:

- Explanation of Field Fixes
- Revised Application Pages (Applicable to 10MY-15MY Application)

If you have any questions regarding this matter, please contact Chetan Joshi of our office at 734/834-4637 or email him at: chetan.joshi@toyota.com.

Sincerely,



Kevin D. Webber
Director
Product Regulatory Affairs

attachment

Explanation of Field Fixes 15-TF-37, 14-TF-48, 13-TF-60, 12-TF-72, 11-TF-68 and 10-TF-90

1. Applicability

MYs	F/F	Test Groups	Models	Engine
2015	15-TF-37	FTYXV01.8HC3	Prius	2ZR-FXE
2014	14-TF-48	ETYXV01.8HC3	Prius	
		ETYXV01.8CCU	Prius v	
2013	13-TF-60	DTYXV01.8HC3	Prius	
		DTYXV01.8CCU	Prius v	
2012	12-TF-72	CTYXV01.8HC3	Prius	
		CTYXV01.8CCU	Prius v	
2011	11-TF-68	BTYXV01.8HC3	Prius	
2010	10-TF-90	ATYXV01.8HC3	Prius	

2. Purpose

The purpose of these Field Fixes is to maintain vehicle driving performance when inverter malfunction occurs. (OBD-related)

3. Contents of Modification

The subject vehicles contain software used to control the Intelligent Power Module (IPM) within the inverter assembly, a part of the vehicle's hybrid system. If a specific transistor within the IPM fails in a certain way during a high-load driving condition, such as during hard acceleration, there is a possibility for an abnormally high voltage to be generated that could exceed a certain limit in the software and IPM circuit design. If this abnormally high voltage is generated, there is the possibility that the hybrid system could shut down instead of entering a failsafe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. To address this issue, Toyota will update the Hybrid Control Module's (HCM) software through a field action (safety recall). In addition, the new software will support a further enhancement to the failsafe driving modes to provide for increased available speed and range under more circumstances in the event of a failure requiring failsafe driving.

Later Model Year (MY) 2014 Prius and MY 2015 Prius vehicles are not covered by the field action (safety recall) to update the software. However, if HCM replacement is necessary in the field for other reasons in these Prius vehicles, an HCM containing the new software will be installed due to parts commonization. Therefore, the 2015MY Prius is included in this Field Fix.

4. Effect on Emissions

Toyota judges that these modifications have no impact on emissions or fuel economy.

5. Parts List

Part name: **Hybrid Control Module**

Model	MYs	Part numbers		Calibration IDs	
		Before	After	Before	After
Prius	2015, 2014	89681-47252	89681-47253	896B34747200	896B34747300
	2013	89681-47443	89681-47444	896B34736300	896B34736400
	2012	89681-47304	89681-47305	896B34720400	896B34720500
	2011	89681-47216	89681-47217	896B34714600	896B34714700
	2010	89681-47089	89681-47380	896B34701900	896B34732000

Model	MYs	Part numbers		Calibration IDs	
		Before	After	Before	After
Prius v	2014	89681-47422	89681-47423	896B34727300	896B34761100
	2013				
	2012	89681-47183	89681-47184	896B34764000	896B34761100
		89681-47342	89681-47343	896B34761000	896B34761100

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8	89661-47590	34754000	54E1AA13	Main
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8		34754100	2D6958A5	Main
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8	89661-47591	A4701000	611F6EF2	Sub
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8		34754200	A383CB7A	Main Field Fix 15-TF-02
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07E8	89661-47592	A4701000	611F6EF2	Sub Field Fix 15-TF-02
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA		896B34747100	35B5F9D9	Main
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA	89681-47251	896B57602000	AE0CAB38	Sub
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA		896B34747200	6F4ACF60	Main Field Fix 15-TF-06
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA	89681-47252	896B57602000	AE0CAB38	Sub Field Fix 15-TF-06
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA		896B34747300	TBD	Main Field Fix 15-TF-37
2015	TOYOTA	PRIUS	1.8	A/T	FTYXV01.8HC3	S07EA	89681-47253	896B57602000	AE0CAB38	Sub Field Fix 15-TF-37

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8	89661-47590	34754000	54E1AA13	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8		34754100	2D6938A5	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8	89661-47591	A4701000	611F6EF2	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8		34754200	A383CB7A	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07E8	89661-47592	A4701000	611F6EF2	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA		896B34747000	2DADD1A1	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA	89681-47250	896B57602000	AE9CAB38	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA		896B34747100	35B5F9D9	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA	89681-47251	896B57602000	AE9CAB38	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA		896B34747200	6F4ACF60	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA	89681-47252	896B57603000	AE9CAB38	Sub
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA		896B34747300	TBD	Main
2014	TOYOTA	PRIUS	1.8	A/T	ETVXV01.8HC3	S07EA	89681-47253	896B57603000	AE9CAB38	Sub

1.02.06 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8	89661-47560	34751000	8D3140F7	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8		A4701000	611F6EP2	Sub
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8		34751100	2EE83BA9	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8	89661-47561	A4701000	611F6EP2	Sub
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8		34751200	8E23EFE	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07E8	89661-47562	A4701000	611F6EP2	Sub
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA		896B34727200	975DD67D	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA	89681-47421	896B34712000	18E210AC	Sub
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA		896B34727300	26DDC41D	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA	89681-47422	896B34712000	18E210AC	Sub
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA		896B34761100	TBD	Main
2014	TOYOTA	PRJUS v	1.8	A/T	ETVXV01.8CCU	S07EA	89681-47423	896B34712000	18E210AC	Sub
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07E8		37608000	5F92CD24	Main
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07E8	89661-76080	A4701000	611F6EP2	Sub
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07E8		37608100	5DE99AF0	Main
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07E8	89661-76081	A4701000	611F6EP2	Sub
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07EA		896B37613000	9B6E68FC	Main
2014	TOYOTA	CT 200h	1.8	A/T	ETVXV01.8CCU	S07EA	89681-76130	896B37603000	960D42CC	Sub

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8	89661-47190	34734000	03C64B87	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8		34734100	FBD7EEB5	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8	89661-47191	A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8				Running Change 13-TR-22
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8	89661-47192	34734200	8C3B050E	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8		34734300	E18E1161	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8	89661-47193	A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8				Field Fix 13-TR-46
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8	89661-47194	34734400	EEC2C643	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07E8				Field Fix 13-TR-48
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA	89681-47440	896B34736000	72AA1864	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA		896B57602000	AEP0AB38	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA	89681-47441	896B34736100	5C71B512	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA		896B57602000	AEP0AB38	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA				Running Change 13-TR-25
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA	89681-47442	896B34736200	56A922F1	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA		896B57602000	AEP0AB38	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA		896B34736300	75A7DA3F	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA	89681-47443	896B57602000	AEP0AB38	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA				Field Fix 13-TR-51
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA	89681-47444	896B34736400	TBD	Main
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA				Field Fix 13-TR-60
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA		896B57602000	AEP0AB38	Sub
2013	TOYOTA	PRIUS	1.8	A/T	DTYXV01.8HC3	S07EA				Field Fix 13-TR-60

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8	89661-47361	34725100	24A900CA	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8	89661-47362	34725200	6040A0B4	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8		34725300	F78DB2D4	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8	89661-47363	A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8		34725400	F6AE3E88	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8	89661-47364	A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8		34725500	EA3ABACF	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07E8	89661-47365	A4701000	611F6EF2	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA		896B34727100	89337E62	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA	89681-47420	896B34712000	18E210AC	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA		896B34727200	975DD67D	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA	89681-47421	896B34712000	18E210AC	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA		896B34727300	26DDC41D	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA	89681-47422	896B34712000	18E210AC	Sub
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA		896B34761100	TBD	Main
2013	TOYOTA	PRIUS v	1.8	A/T	DTYXV01.8CCU	S07EA	89681-47423	896B34712000	18E210AC	Sub
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8	89661-76011	37601100	5AFED421	Main
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8	89661-76012	37601200	F60B0274	Main
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8		37601300	FE7E1567	Main
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8	89661-76013	A4701000	611F6EF2	Sub
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8		37601400	BCAC6172	Main
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07E8	89661-76014	A4701000	611F6EF2	Sub

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA	89681-76060	896B37606000	6DE3DDDB9	Main
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA		896B57602000	AE0CAB38	Sub
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA	89681-76061	896B37606100	6C3CDFR1	Main Running Change 13-TR-23
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA		896B57602000	AE0CAB38	Sub Running Change 13-TR-23
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA		896B37606200	B4C792F2	Main Field Fix 13-1F-32
2013	TOYOTA	CT 200h	1.8	A/T	DTYXV01.8CCU	S07EA	89681-76062	896B57602000	AE0CAB38	Sub Field Fix 13-1F-32

1.02.06 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8	89661-47193	34734800	03C64B87	Main For Job#1 Running Change 12-JR-05
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub For Job#1 Running Change 12-JR-05
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8	89661-47191	34734100	FBD78E85	Main Field Fix 12-JF-15
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub Field Fix 12-JF-15
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8	89661-47192	34734200	8C2B050E	Main Field Fix 12-JF-40
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub Field Fix 12-JF-40
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8	89661-47193	34734300	E18E1161	Main Field Fix 12-JF-56
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub Field Fix 12-JF-56
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8	89661-47194	34734400	EEC2C643	Main Field Fix 12-JF-59
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub Field Fix 12-JF-59

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47300	896B34720000	7B1FAE75	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34720100	DBE90BD9	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47301	896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34720200	DD870998	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47302	896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34720300	644FCBA5	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47303	896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34720400	2C9B666E	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47304	896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34720500	TBD	Main
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA	89681-47305	896B34708000	7D7403F9	Sub
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-21
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Running Change 12-TR-21
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Running Change 12-TR-35
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Running Change 12-TR-35
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-31
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-31
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-64
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-64
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-72
2012	TOYOTA	Prius	1.8	A/T	CTYXV01.8HC3	S07EA		896B34708000	7D7403F9	Field Fix 12-TR-72

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47360	34725000	86D5CAB5	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		34725100	24A900CA	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47361	A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8				Running Change 12-TR-04
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47362	34725200	6040A0B4	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		34725300	F78DB2E4	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47363	A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8				Field Fix 12-TF-40
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47364	34725400	P6AE3E88	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8		34725500	EA3ABACF	Main
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8	89661-47365	A4701000	611F6EF2	Sub
2012	TOYOTA	Prus v	1.8	A/T	CTYXV01.8CCU	S07E8				Field Fix 12-TF-59

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47180	896B34711000	BD9FB164	Main
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B54705000	001EA7B0	Sub
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34711100	AF4002CC	Main
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47181	896B54705100	BACE10C0	Sub
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34727100	89337E62	Main Running Change 12-TR-38
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47182	896B54705100	BACE10C0	Sub Running Change 12-TR-38
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34764000	5FHSBD54	Main Field Fix 12-TF-57
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47183	896B54705100	BACE10C0	Sub Field Fix 12-TF-57
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34761100	TBD	Main Field Fix 12-TF-72
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47184	896B54705100	BACE10C0	Sub Field Fix 12-TF-72
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34727000	9362B004	Main Running Change 12-TR-23
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47340	896B54709000	182E1060	Sub Running Change 12-TR-23
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34727100	89337E62	Main Running Change 12-TR-35
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47341	896B54709000	182E1060	Sub Running Change 12-TR-35
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34761000	23F6C136	Main Field Fix 12-TF-57
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47342	896B54709000	182E1060	Sub Field Fix 12-TF-57
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA		896B34761100	TBD	Main Field Fix 12-TF-72
2012	TOYOTA	Prius v	1.8	A/T	CTYXV01.8CCU	\$07EA	89681-47343	896B54709000	182E1060	Sub Field Fix 12-TF-72

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47390	34728000	33109020	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47391	34728100	2E8B3C74	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8				Running Change 11-JR-39
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8				Running Change 11-JR-39
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47392	34728200	11E30C09	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		34728300	829A817F	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47393			Field Fix 11-JF-49
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		34728400	DCB917C4	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47394			Field Fix 11-JF-58
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		34728500	EBF44D59	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8	89661-47395			Field Fix 11-JF-60
2011	TOYOTA	Prius	1.8	A/T	BTYXXV01.8HC3	S07E8		A4701000	611F6EF2	Sub

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47210	896B34714006	C33DAFC8	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714106	FBD948DD	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47211	896B54701100	B5ASD17C	Running Change 11-TR-27
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Running Change 11-TR-27
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714206	CCEBB718	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47212			Running Change 11-TR-33
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Running Change 11-TR-33
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714300	6779E726	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47213			Field Fix 11-TF-16
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Field Fix 11-TF-16
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47214		S0578E9F	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714406		Field Fix 11-TF-25
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Field Fix 11-TF-25
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714500	136E9772	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47215			Field Fix 11-TF-45
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Field Fix 11-TF-45
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714606	5B64AP93	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47216			Field Fix 11-TF-64
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Field Fix 11-TF-64
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B34714700	TBD	Main
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA	89681-47217			Field Fix 11-TF-68
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA		896B54701100	B5ASD17C	Sub
2011	TOYOTA	Prius	1.8	A/T	BTYXV01.8HC3	S07EA				Field Fix 11-TF-68

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47260	34715000	0AC66A3A	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715100	1E927B3A	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47261	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715200	2E91499F	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47262	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715300	F47D4022	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47263	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715400	6F97F39D	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47264	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715500	ECAC146A1	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47265	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715600	CA016D85	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47266	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8		34715700	4772AF79	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8	89661-47267	A4701000	611F6EF2	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXV01.8HC3	S07E8				Field Fix 10-TF-82

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47080	896B34701000	990538F0	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701000	07201B82	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701100	7EFAECAB	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47081	896B34701000	07201B82	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701200	68E6EC17	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47082	896B34701000	07201B82	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701300	C43386AD	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47083	896B34701000	07201B82	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701400	D6A04F3B	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47084	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701500	C2040956	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47085	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701600	82388A6D	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47086	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701700	794B3BBB	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47087	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701800	79F0EDC6	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47088	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34701900	BDE94532	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47089	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA		896B34732000	TBD	Main
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA	89681-47380	896B34701100	B5A5D17C	Sub
2010	TOYOTA	Prius	1.8	A/T	ATYXXV01.8HC3	S07EA				Field Fix 10-TR-90

Toyota Motor North America, Inc.
1555 Woodridge Ave.
Ann Arbor, MI 48105
(734) 995-2600

June 25, 2020

Mr. William Ott
Compliance Division
Environmental Protection Agency
2000 Traverwood Dr.
Ann Arbor, MI 48105

Dear Mr. Ott:

SUBJECT: Submission of Field Fixes 18-TF-59, 17-TF-66, 16-TF-95 and 15-TF-48 <Revision>

In accordance with the provisions of 40 CFR§86.1842-01, §86.1843-01(e)(f), and §86.1844-01(f); Toyota is providing for review the subject Field Fixes for the following test groups:

MY	F/F	Test Group	Model	Engine
2018	18-TF-59	JTYXV01.8P3U	Prius v	2ZR-FXE
2017	17-TF-66	HTYXV01.8P3U		
2016	16-TF-95	GTYXV01.8PCU		
2015	15-TF-48	FTYXV01.8CCU		

The purpose of this Running Change is to maintain vehicle driving performance when inverter malfunction occurs. (~~OBD-related~~) <Revision>(Non-OBD)

The following information is attached for review:

- Explanation of Field Fixes
- Revised Application Pages

If you have any questions regarding this matter, please contact Lisa Florida of our office at 734.995.1151 or email: lisa.florida@toyota.com.

Sincerely,



Kevin D. Webber
General Manager
Sustainability & Regulatory Affairs

attachments

Explanation of Field Fixes 18-TF-59, 17-TF-66, 16-TF-95 and 15-TF-48 <Revision>

1. Applicability

MY	F/F	Test Group	Model	Engine
2018	18-TF-59	JTYXV01.8P3U	Prius v	2ZR-FXE
2017	17-TF-66	HTYXV01.8P3U		
2016	16-TF-95	GTYXV01.8PCU		
2015	15-TF-48	FTYXV01.8CCU		

2. Purpose

The purpose of this Running Change is to maintain vehicle driving performance when inverter malfunction occurs. (~~OBD-related~~) <Revision>(Non-OBD)

3. Contents of Modification

As previously described in the letter of ~~15-TF-44, 14-TF-53, 13-TF-65 and 12-TF-77~~ 15-TF-37, 14-TF-48, 13-TF-60, 12-TF-72, 11-TF-68 and 10-TF-90, which was submitted in ~~Nov~~Oct, ~~2019~~2018, the subject vehicles contain software used to control the Intelligent Power Module (IPM) within the inverter assembly, a part of the vehicle's hybrid system. If a specific transistor within the IPM fails in a certain way during a high-load driving condition, such as during hard acceleration, there is a possibility for an abnormally high voltage to be generated that could exceed a certain limit in the software and IPM circuit design. If this abnormally high voltage is generated, there is the possibility that the hybrid system could shut down instead of entering a fail-safe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. To address this issue, Toyota will update the Hybrid Control Module's (HCM) software through a field action (safety recall). In addition, the new software will support a further enhancement to the fail-safe driving modes to provide for increased available speed and range under more circumstances in the event of a failure requiring fail-safe driving.

4. Effect on Emissions and Fuel Economy

Toyota judges that these modifications have no impact on emissions or fuel economy.

5. Parts List

Part name: **Hybrid Control Module**

Engine	Model	MY	Part Numbers		Calibration ID (Main)	
			Before	After	Before	After
2ZR-FXE	Prius v	2018	89981-47230	89981-47231	899834740000 899856201000	899834740100 899856201000
		2017	89981-47630	89981-47631	899834753000 899856201000	899834753100 899856201000
		2016 2015	89681-47030	89681-47031	896B34755000 896B54716000	896B34755100 896B54716000

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07E8	89661-76160	37616000	1A10A330	Main
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07E8		A4701000	611F6EF2	Sub
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07E8	89661-76161	37616100	79BD7B02	Main Field Fix 15-TF-02
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07E8		A4701000	611F6EF2	Sub Field Fix 15-TF-02
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07EA	89681-76200	896B37617000	BF17E9F8	Main
2015	TOYOTA	CT 200h	1.8	A/T	FTYXV01.8CCU	\$07EA		896B57603000	900D42CC	Sub
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07E8	89661-47630	34758000	335A8E23	Main
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07E8		A4701000	611F6EF2	Sub
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07E8	89661-47631	34758100	E6FAA806	Main Field Fix 15-TF-02
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07E8		A4701000	611F6EF2	Sub Field Fix 15-TF-02
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07EA	89681-47030	896B34755000	A95152B7	Main
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07EA		896B54716000	25D94C78	Sub
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07EA	89681-47031	896B34755100	B32A0067	Main Field Fix 15-TF-44, 15-TF-48
2015	TOYOTA	PRIUS v	1.8	A/T	FTYXV01.8CCU	\$07EA		896B54716000	25D94C78	Sub Field Fix 15-TF-44, 15-TF-48

1.02.00 Engine Control Module (ECM), Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Module ID	ECM	CAL ID	CVN	Note
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07E8	89661-76160	37616000	1A10A330	Main
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07E8		A4701000	611F6EF2	Sub
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07E8	89661-76161	37616100	79BD7B02	Main Running Change 16-TR-07
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07E8		A4701000	611F6EF2	Sub Running Change 16-TR-07
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA	89681-76270	896B37623000	DC9A323B	Main
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA		896B57603000	900D42CC	Sub
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA	89681-76271	896B37623100	0A27540F	Main Running Change 16-TR-13
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA		896B57603000	900D42CC	Sub Running Change 16-TR-13
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07E8	89661-47630	34758000	335A8E23	Main
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07E8		A4701000	611F6EF2	Sub
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07E8	89661-47631	34758100	E6FAA806	Main Running Change 16-TR-07
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07E8		A4701000	611F6EF2	Sub Running Change 16-TR-07
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA	89681-47030	896B34755000	A95152B7	Main
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA		896B54716000	25D94C78	Sub
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA	89681-47031	896B34755100	TBD	Main Field Fix 16-TF-95
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA		896B54716000	25D94C78	Sub Field Fix 16-TF-95
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA	Included in PCU	898844708200	6DDD03A4	MG Control Module(1MG-CPU)
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA		898844709200	DA6CB756	MG Control Module(2MG-CPU)
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA	Included in PCU	898844708300	1686932C	MG Control Module(1MG-CPU) Field Fix 16-TF-92
2016	TOYOTA	CT 200h	1.8	A/T	GTXXV01.8PCU	\$07EA		898844709200	DA6CB756	MG Control Module(2MG-CPU)
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA	Included in PCU	898844712300	E61A6C89	MG Control Module(1MG-CPU)
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA		898844713300	8F4811FA	MG Control Module(2MG-CPU)
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA	Included in PCU	898844712400	92AD318F	MG Control Module(1MG-CPU) Field Fix 16-TF-92
2016	TOYOTA	PRIUS v	1.8	A/T	GTXXV01.8PCU	\$07EA		898844713300	8F4811FA	MG Control Module(2MG-CPU)

1.02.00 Electronic control module, Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Type of control module	Module ID	Part number	CAL ID	CVN	Note
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U	ECM	\$07E8	89661-76161	37616100	79BD7B02	Main
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U		\$07E8		A4701000	611F6EF2	Sub
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U	Hybrid Control Module	\$07EA	89681-76271	896B37623100	0A27540F	Main
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U		\$07EA		896B57603000	900D42CC	Sub
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844708200	6DDD03A4	MG Control Module(1MG-CPU)
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U		\$07EA		898844709200	DA6CB756	MG Control Module(2MG-CPU)
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844708300	1686932C	MG Control Module(1MG-CPU) Field Fix 17-TF-62
2017	TOYOTA	CT 200h	1.8	A/T	HTYXV01.8P3U		\$07EA		898844709200	DA6CB756	MG Control Module(2MG-CPU)
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U	ECM	\$07E8	89661-47800	34775000	34934400	Main
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U		\$07E8		A4701000	611F6EF2	Sub
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U	Hybrid Control Module	\$07EA	89981-47630	899834753000	66B0ED70	Main
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U		\$07EA		899856201000	6D85C844	Sub
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U	Hybrid Control Module	\$07EA	89981-47631	899834753100	TBD	Main Field Fix 17-TF-66
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U		\$07EA		899856201000	6D85C844	Sub Field Fix 17-TF-66
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844712300	E61A6C89	MG Control Module(1MG-CPU)
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U		\$07EA		898844713300	8F4811FA	MG Control Module(2MG-CPU)
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844712400	92AD318F	MG Control Module(1MG-CPU) Field Fix 17-TF-62
2017	TOYOTA	PRIUS v	1.8	A/T	HTYXV01.8P3U		\$07EA		898844713300	8F4811FA	MG Control Module(2MG-CPU)

1.02.00 Electronic control module, Calibration ID (CID) and Calibration Verification Number (CVN)

Model Year	Manufacturer	Model	Engine Size	Transmission	Test Group	Type of control module	Module ID	Part number	CAL ID	CVN	Note
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U	ECM	\$07E8	89661-47840	34779000	1570B428	Main
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U		\$07E8		A4701000	611F6EF2	Sub
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U	Hybrid Control Module	\$07EA	89981-47230	899834740000	352ABC32	Main
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U		\$07EA		899856201000	6D85C844	Sub
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U	Hybrid Control Module	\$07EA	89981-47231	899834740100	TBD	Main Field Fix 18-TF-59
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U		\$07EA		899856201000	6D85C844	Sub Field Fix 18-TF-59
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844712300	E61A6C89	1MG-CPU
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U		\$07EA		898844713300	8F4811FA	2MG-CPU
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U	MG Control Module	\$07EA	Included in PCU	898844712400	92AD318F	1MG-CPU Field Fix 18-TF-51
2018	TOYOTA	PRIUS v	1.8	A/T	JTYXV01.8P3U		\$07EA		898844713300	8F4811FA	2MG-CPU